

WHAT IS CLAIMED IS:

1. A method for manufacturing buried wiring structure comprising the steps of:
 - 5 forming a first depressed portion on an insulating film;
applying a burying material on said first depressed portion and said insulating film to bury said first depressed portion;
performing chemical mechanical polishing of said burying material until the insulating film is exposed, thereby leaving the burying
10 material in said first depressed portion;
forming a resist having a pattern of a second depressed portion that overlaps said first depressed portion on said insulating film wherein said burying material has been buried;
etching said burying material and said insulating film to a
15 predetermined depth using the resist as a mask to form the second depressed portion;
removing said resist and said burying material left after the step of etching; and
depositing a conductive material in said first depressed portion
20 and said second depressed portion.
2. A method for manufacturing buried wiring structure comprising the steps of:
 - 25 depositing an insulating film on under-layer wiring;
forming a contact hole in said insulating film;
applying a burying material on said contact hole and said insulating film to bury said contact hole;
performing chemical mechanical polishing of said burying material until the insulating film is exposed, thereby leaving the burying
30 material in said contact hole;

forming a resist having a pattern of a wiring channel that overlaps said contact hole on said insulating film wherein said burying material has been buried;

etching said burying material and said insulating film to a
5 predetermined depth using the resist as a mask to form the wiring channel;

removing said resist and said burying material left after the step of etching; and

depositing a conductive material in said contact hole and said wiring channel.

10

3. A method for manufacturing buried wiring structure comprising the steps of:

depositing an insulating film on under-layer wiring;

forming a wiring channel in said insulating film;

15 applying a burying material on said wiring channel and said insulating film to bury said wiring channel;

performing chemical mechanical polishing of said burying material until the insulating film is exposed, thereby leaving the burying material in said wiring channel;

20 forming a resist having a pattern of a contact hole that overlaps said wiring channel on said insulating film wherein said burying material has been buried;

etching said burying material and said insulating film using the resist as a mask to form the contact hole;

25 removing said resist and said burying material left after the step of etching; and

depositing a conductive material in said contact hole and said wiring channel.

30 4. The method for manufacturing buried wiring structure according to claim 2, wherein an organic polymeric material having substantially

the same etching rate as the etching rate of said insulating film is used as said burying material.

5. The method for manufacturing buried wiring structure according
5 to claim 1, wherein an organic polymeric material containing no aromatic compounds is used as said burying material.

6. The method for manufacturing buried wiring structure according
to claim 5, further comprising a step for forming an antireflective
10 film on said insulating film prior to the step of forming said resist.

7. The method for manufacturing buried wiring structure according
to claim 6, wherein said burying material and said antireflective film
are not soluble to each other.

15